UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,238	12/02/2003	Thorsten Feiweier	P03,0478	3519

7590 05/17/2005

SCHIFF HARDIN & WAITE
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, IL 60606

EXAMINER	
FETZNER, TIFFANY A	

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/726,238	FEIWEIER, THORSTEN	
	Examiner	Art Unit	
	Tiffany A. Fetzner	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because:

A) Figure 9 is not referred to in the detailed description. [See page 20 the second and third paragraphs, where the components of figure 9 are disclosed but no reference to Figure 9 is provided.] The Examiner suggests on page 20 line 6 after the words "is plotted" **inserting** "in Figure 9," as a way of correcting the problem. Corrected drawing sheets, or a corrected specification, in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

A) Applicant initially identifies component 2 in the last paragraph of page 22, and on page 23 lines 1, 3, 9, and 11 as a "scanner" however applicant also refers to component "2" on page 23 as a "tomograph" [See page 23 lines 6, 18, and 23] There is improper antecedent basis and / or a misidentification of a system component, in the original

disclosure. Applicant needs to provide all adjectives that describe a given component with the first occurrence of the component in order to establish proper antecedent basis. Appropriate correction is required.

Claim Objections

4. **Claim 2** from the preliminary amendment of May 3rd 2004 is objected to because of the following informalities: Claim 2 requires a "phase position" there is no antecedent basis for this claim because applicant has eliminated the antecedent basis by the May 3rd 2004 preliminary amendment, therefore the word "position" needs to be removed from **claim 2**. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-4, 8, 9,** and **11-19** are rejected under **35 U.S.C. 102(e)** as being anticipated by **Mills** US Patent Application Publication 2004/0027127 A1 published February 12th 2004, with an effective priority from an English 2001 US designating PCT with an international filing date of August 21st 2001, and an effective US priority date of **August 22nd 2000**. The date of the **Mills** reference, which is being applied by the examiner, is the US effective date of this prior art reference is **August 22nd 2000** as per the AIPA rules of 1999 and the international property and technology act of 2002.

7. With respect to **Claim 1**, **Mills** teaches and shows " A method for determining a field strength of radio-frequency energy emitted during a magnetic resonance measurement" [See page 2 paragraph [0014], page 3 paragraph [0016], page 4

equations 3 and 4; page 5 paragraph [0042], page 8 paragraph [0078], page 10 paragraph [0100], [0101] and the entire disclosure of the **Mills** reference in general.] "comprising the steps of: from an antenna of a magnetic resonance examination apparatus, generating a radio-frequency field having a field strength associated therewith by emitting at least one radio-frequency pulse from said antenna, and thereby causing an examination subject in said radio-frequency field to emit a magnetic resonance signal;" [See antenna 118a, page 7 paragraph [0073] through page 8 paragraph [0082]]. **Mills** also teaches and shows "receiving said magnetic resonance signal;" [See detectors 120, and detector antenna 20a page 7 paragraph [0073] through page 8 paragraph [0082]]; "and determining a phase of said magnetic resonance signal and, from said phase, determining said field strength." [See page 2 paragraph [0014], page 3 paragraph [0016], page 4 equations 3 and 4; page 5 paragraph [0042], page 8 paragraph [0078], page 10 paragraph [0100], [0101] and the entire disclosure of the **Mills** reference in general, especially the detailed explanation of page 7 paragraph [0073] through page 25 paragraph [0230].]

8. With respect to **Claim 2**, **Mills** teaches and shows "**exciting** said magnetic resonance signal in said subject in a spatially resolved manner within a measurement volume, and determining a spatially-dependent phase **position** of the magnetic resonance signal and determining said field strength as a function of a location within said measurement volume." [See the entire description of page 1 paragraph [0005] through page 2 paragraph [0010], and page 2 paragraph [0014] through page 25 paragraph [0230], along with figures 1A through 14, which explains and teaches this step numerous times in exhaustive detail.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 2** and need not be reiterated.

9. With respect to **Claim 3**, **Mills** teaches and shows "**receiving** said magnetic resonance signal in said subject in a spatially resolved manner within a measurement volume, and determining a spatially-dependent phase of the magnetic resonance signal and determining said field strength as a function of a location within said measurement volume. [See the entire description of page 1 paragraph [0005] through page 2 paragraph [0010], and page 2 paragraph [0014] through page 25 paragraph [0230],

along with figures 1A through 14, which explain this step numerous time in exhaustive detail.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 3** and need not be reiterated.

10. With respect to **Claim 4**, **Mills** teaches and shows that "said at least one radio-frequency pulse produces a flip angle" (i.e. the preferred flip angle of **Mills** is 90 degrees), "of nuclear spins in said subject, and comprising determining said flip angle from said phase and determining said field strength dependent on said flip angle. [See page 7 paragraph [0075] through page 8 paragraph [0082], page 9 paragraph [0092] through page 11 paragraph [0101], where the secondary H1 or B1 magnetic field is sampled, the flip angle φ_{H1} is determined, and the intensity (i.e. strength) of the transverse magnetic field H1, of the set of measurements is associated specifically by phase, (i.e. each phase is representative of an different angle or angular component).] The examiner notes that the flip angle which is preferred is a flip angle of 90 degrees / a CPMG sequence of 90,180,180, ... However, **Mills** also teaches that any NMR pulse sequences which provide the signals for a t1 or t2 image may be applied. [See page 11 paragraph [0109]] Therefore the ability to employ the known FLASH method of the prior art with flip angles less than 90 degrees, or field gradients (i.e. gradient echoes) with dynamic phase dispersion, corresponding to the rotation of the field gradient (i.e. the gradient echo), during a single free induction decay (FID), [See page 1 paragraph [0004], which are sequences normally used for T1 and t2 imaging [See page 10 paragraph [0097] through paragraph [0100]], are also part of the teachings of the **Mills** reference. The same reasons for rejection, that apply to **claim 1** also apply to **claim 4** and need not be reiterated.

11. With respect to **Claim 8**, **Mills** teaches and shows "receiving said magnetic resonance signals in respectively separate measurements and, for each measurement, determining the phase of the magnetic resonance signal, and determining a phase difference between the respective phases from two of said measurements and determining said field strength dependent on said phase difference". [See page 7 paragraph [0073] through page 19 paragraph [0172], figures 9 through 14] The same

reasons for rejection, that apply to **claim 1** also apply to **claim 8** and need not be reiterated.

12. With respect to **Claim 9**, **Mills** teaches and shows the step of "employing measurements, as said separate measurements, that are identical except for the at least one radio-frequency pulse. [See paragraph [0033] on pages 4 and 5 where each measurement made the antenna detector array and associated by phase, is independent (i.e. separate) and in parallel to the other measurements.] The use of CPMG sequence, which has a 90-degree pulse, followed by a series of 180-degree pulses, where only the initial RF pulse differs also meets this limitation. [See page 11 paragraph [0109]. Additionally teachings of page 10 paragraph [0098] through page 25 paragraph [0230] explain in depth how the parallel-detected measurements are identical except for varying unique phase that results from the secondary applied H1 magnetic field. The same reasons for rejection, that apply to **claims 1, 8** also apply to **claim 9** and need not be reiterated.

13. With respect to **Claim 11**, **Mills** teaches and shows "the step of emitting at least one radio-frequency pulse comprises emitting at least one short, intensive radio-frequency pulse." [See page 7 paragraph [0074] through page 8 paragraph [0082] where the initial 90-degree pulse is turned on and then off producing an FID with a plurality of measurements being made by the separate detector antennas simultaneously so that all the necessary data are acquired in the time space of a single FID. The same reasons for rejection, that apply to **claim 1** also apply to **claim 11** and need not be reiterated.

14. With respect to **Claim 12**, **Mills** teaches and shows that "said magnetic resonance examination apparatus has a basic magnetic field associated therewith", [See page 7 paragraph [0073] figures 8, 1a, 1b, 1c; page 10 paragraph [0101] through page 14 paragraph [0130] "said basic magnetic field exhibiting spatially-dependent field inhomogeneities, and wherein the step of determining said field strength comprises determining a spatially-dependent field strength taking said spatially-dependent field inhomogeneities into account" [See figure 1c, page 10 paragraph [0097] through page

12 paragraph [0118]. The same reasons for rejection, that apply to **claim 1** also apply to **claim 12** and need not be reiterated.

15. With respect to **Claim 13**, **Mills** teaches and shows "the step of determining said field strength comprises determining a spatially-dependent field strength for a group of adjacent voxels by identifying the phase of respective magnetic resonance signals for individual voxels in said group and combining the respective phases into a common phase, and determining the field strength for said voxel group from said common phase." [See the teaching's of the entire reference page 1 paragraph [0001] through page 53 paragraph [1176], as this feature is a main feature of the reference, and taught in numerous ways through out the reference. See also figures 1a through 14 especially figures9 through 14.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 13** and need not be reiterated.

16. With respect to **Claim 14**, **Mills** teaches and shows that "each of the magnetic resonance signals for the individual voxels has an amplitude", [See figures 9, 11, 12, 14, page 10 paragraph [0100]] "and comprising weighting the phase dependent on the amplitude of the associated magnetic resonance signal" [See figures 13, 14 page 9 paragraph [0096] through page 10 paragraph [0100]. The same reasons for rejection, that apply to **claims 1, 13** also apply to **claim 14** and need not be reiterated.

17. With respect to **Claim 15**, **Mills** teaches and shows "the step of determining said field strength comprises determining a spatially-dependent field strength for a group of adjacent voxels by identifying the phase difference of respective magnetic resonance signals for individual voxels in said group and combining the respective phase differences into a common phase difference, and determining the field strength for said voxel group from said common phase difference". [See page 1 paragraph 5 through page 51 paragraph [1161] especially page 19 paragraph [0170], page 10 paragraph [0100], as determining each of the unique differences in the phase components for each voxel of the image dependent on the different locations of each detector for each measurement, and the step of using of the net magnetization for each individual voxel in determining the intensity / strength of the magnetic field at each voxel location. Is a

main feature of the **Mills** reference. The same reasons for rejection, that apply to **claim 1** also apply to **claim 15** and need not be reiterated.

18. With respect to **Claim 16**, **Mills** teaches and shows "each of the magnetic resonance signals for the individual voxels has an amplitude" [See figures 9-14, page 10 paragraph [0100]]; page 18 paragraph [0169], and page 19 paragraph [0170]], "and comprising weighting the phase difference dependent on the amplitude of the associated magnetic resonance signal." [See page 3 paragraphs [0018] through [0020] with equation 1, pages 4-5 paragraph [0033], page 9 paragraph [0091], page 10 paragraph [0100], page 17 paragraphs [0159], [0162]; page 18 paragraph [0169], and page 19 paragraph [0170]]. The same reasons for rejection, that apply to **claims 1, 15** also apply to **claim 16** and need not be reiterated.

19. With respect to **Claim 17**, **Mills** teaches and shows "employing said field strength determined from said phase to optimize said field strength in a predetermined volume region of the subject. [See page 8 paragraph [0078 through page 10 paragraph [0096]. The same reasons for rejection, that apply to **claim 1** also apply to **claim 17** and need not be reiterated.

20. With respect to **Claim 18**, **Mills** teaches and shows "magnetic resonance examination apparatus comprising: a magnetic resonance scanner adapted to receive a subject therein, said magnetic resonance scanner having a radio-frequency antenna;"[See figures 8, 1a, 1b; page 7 paragraph [0073] through page 14 paragraph [0130]; "a control computer for operating said magnetic resonance scanner, including operating said radio-frequency antenna;" [See figures 8, 1a, 1b; page 7 paragraph [0073] through page 14 paragraph [0130]; "and said control computer operating said magnetic resonance scanner and said radio-frequency antenna to produce a radio-frequency field, having a field strength, by emitting at least one radio-frequency pulse from said radio-frequency antenna and thereby exciting a magnetic resonance signal from said subject, for acquiring said magnetic resonance signal, for determining a phase of said magnetic resonance signal, and for determining said field strength from said phase." [See figures 8, 1a, 1b; page 7 paragraph [0073] through page 14 paragraph [0130]; page 2 paragraph [0014], page 3 paragraph [0016], page 4 equations 3 and 4;

page 5 paragraph [0042], and the entire disclosure of the **Mills** reference in general, especially the detailed explanation of page 7 paragraph [0073] through page 25 paragraph [0230].] The same reasons for rejection, that apply to **claim 1** also apply to **claim 18** and need not be reiterated.

21. With respect to **Claim 19**, **Mills** teaches and shows "computer program product loadable into a control computer of magnetic resonance examination apparatus having a radio-frequency antenna operated by said control computer" [See page 25 paragraph [0231 through page 35 paragraph [1003], "said computer program product running in said control computer and causing said control computer to: operate said antenna to produce a radio-frequency field, having a field strength, by emitting at least one radio-frequency pulse, and thereby exciting a magnetic resonance signal in a subject in said field; to acquire said magnetic resonance signal; and to determine a phase of said magnetic resonance signal and to determine said field strength from said phase." [See figures 8, 13,1a, 1c, page 7 paragraph [0073] through page 25 paragraph [0230]. and page 35 paragraph [1004] through page 51 paragraph [1161] The same reasons for rejection, that apply to **claim 1** also apply to **claim 18** and need not be reiterated.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. **Claims 5** and **6**, are rejected under **35 U.S.C. 103(a)** as being unpatentable over **Mills** US Patent Application Publication 2004/0027127 A1 published February 12th 2004, with an effective priority from an English 2001 US designating PCT with an international filing date of August 21st 2001, and an effective US priority date of **August 22nd 2000**. The date of the **Mills** reference which is being applied by the examiner is the US effective date of this prior art reference is **August 22nd 2000** as per the AIPA rules of 1999 and the international property and technology act of 2002.

25. With respect to **Claim 5**, **Mills** lacks directly teaching but does suggest "receiving said magnetic resonance signal in a gradient echo technique", because **Mills** teaches that "NMR pulse sequences which provide the signals for a t1 or t2 image may be applied. [See page 11 paragraph [0109]] Additionally, **Mills** teaches a method for speeding NMR imaging flips the magnetization vector of the nuclei by less than 90 degrees onto the xy plane, is known as FLASH, while another technique to reduce imaging time is to use a field gradient (i.e. a gradient echo) and dynamic phase dispersion, corresponding to the rotation of the field gradient (i.e. the gradient echo), during a single free induction decay (FID) to produce an imaging times of 50 msec., [See page 1 paragraph [0004], Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made that the ability to use a "gradient" / field "echo technique" is an aspect of the **Mills** reference. The same reasons for rejection, that apply to **claim 1** also apply to **claim 5** and need not be reiterated.

26. With respect to **Claim 6**, **Mills** lacks directly teaching but does suggest "phase-modulating said at least one radio-frequency pulse" because **Mills** teaches that a technique to reduce imaging time is to use a field gradient (i.e. a gradient echo) and dynamic phase dispersion, (i.e. dynamic phase dispersion of the RF pulse is considered to be an equivalent way of stating that a "phase-modulation" of "said at least one radio-frequency pulse" corresponding to the rotation of the field gradient (i.e. the gradient echo), during a single free induction decay (FID) is occurring.) [See page 1 paragraph [0004], Additionally, it would also have been obvious to one of ordinary skill in the art at the time that the invention was made that the ability that phase modulating of the RF pulse occurs in the **Mills** reference because the phases of the RF pulses in a spin-echo

or CPMG sequence also necessarily change / modulate phase as the pulse sequence is performed. [See page 11 paragraph [0109]. Page 10 paragraph [0090] through [0100]. The same reasons for rejection, that apply to **claim 1** also apply to **claim 6** and need not be reiterated.

27. **Claims 7**, and **10** are rejected under **35 U.S.C. 103(a)** as being unpatentable over **Mills** US Patent Application Publication 2004/0027127 A1 published February 12th 2004, with an effective priority from an English 2001 US designating PCT with an international filing date of August 21st 2001, and an effective US priority date of **August 22nd 2000;** as applied to **claims 1-6** above, in further view of **Frahm et al.**, US patent 4,707,658 issued November 17th 1987. (The date of the **Mills** reference which is being applied by the examiner is the US effective date of this prior art reference is **August 22nd 2000** as per the AIPA rules of 1999 and the international property and technology act of 2002).

28. With respect to **Claim 7**, **Mills** lacks directly teaching "employing a phase-modulated rectangular pulse as said at least one radio-frequency pulse", because the timing diagrams of the taught sequences are not shown. However **Frahm et al.**, shoes that in applying a FLASH method as taught by **Mills** on page 1 paragraph [0004] that the RF rectangular pulse can be employed in a phase-modulated manner. [See figures 1, 7, and 10 of **Frahm et al.**, It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teaching of **Mills** to include the FLASH timing diagrams of **Frahm et al.**, because **Mills** specifically teaches that NMR pulse sequences used for T1 and T2 imaging can be applied, which includes the prior art methods of FLASH taught by **Frahm et al.**, [See **Mills** page 1 paragraph [0004], page 11 paragraph [0109]]. The same reasons for rejection, and obviousness, that apply to **claims 1, 6** also apply to **claim 7** and need not be reiterated.

29. With respect to **Claim 10**, **Mills** lacks directly teaching "emitting said at least one radio-frequency pulse in one of said measurements that starts with a phase, and shifting said phase after a time by a value in a shifted direction, and emitting said at least one radio-frequency pulse in another of said measurements that starts with said phase, and shifting said phase after said time by said value in a direction opposite to said shifted

direction." However **Frahm et al.**, teaches this limitation [See col. 9 line 5through col. 10 line 10, col. 10 line 56 through col. 11 line 16 and example 1 from col. 11 through col. 13 line 2] It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teaching of **Mills** to include the FLASH pulse sequences of **Frahm et al.**, because **Mills** specifically teaches that NMR pulse sequences used for T1 and T2 imaging can be applied, which includes the prior art methods of FLASH taught by **Frahm et al.**, [See **Mills** page 1 paragraph [0004], page 11 paragraph [0109]]. The same reasons for rejection, and obviousness, that apply to **claims 1, 8, 9** also apply to **claim 10** and need not be reiterated.

Prior art of Record

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) **Mills** International PCT publication WO 02/16956 A1 published February 28th 2002, which corresponds to the 79 pages of the United States **Mills** reference applied above as prior art. The examiner notes that this international publication is 170 pages in length. For the sake of brevity the shorter US Pre- Grant Publication was applied, but the same teachings are rejections can also be made with this international reference, which potentially qualifies as art 35 USC under 102 (b), and 35 USC 103 (a).

B) **Kasuboski et al.,** US patent 5,345,175 issued September 6th 1994.

C) **Feiweier** US patent application publication 2004/0164737 A1 published August 26th 2004, filed December 3rd 2003, which corresponds to applicant's instant application, which is noted for the purposes of a complete record only. This reference is not available as prior art against the claims of the instant application.

Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached at (571) 272-2245. The **only official fax**

phone number for the organization where this application or proceeding is assigned is **(703) 872-9306**.

TAF
May 14, 2005

Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800